

In the Claims:

Please cancel Claims 16, 18, 19, 22, 23 and 28; amend Claims 1-5, 8, 9, 11-15, 20, 21, 24, and 29; and add new Claims 30-33, all as shown below. Applicant respectfully reserves the right to prosecute any originally presented or canceled claims in a continuing or future application.

1. (Currently Amended) A system for session-based retrieval at a client system of content from a server system, ~~said server system serving a string-based content, said string-based content including a plurality of strings~~, comprising:

a communication protocol that ~~provides a~~ enables an asynchronous session-based connection between a client system and a server system, and allows ~~said the~~ client system to send ~~a query string to query said server system for content, within a session between the client system and the server system, a plurality of consecutively input query strings, to query the server system for content as part of a session;~~

a client object, in communication with a client software at ~~said the~~ client system and with the communication protocol, ~~said wherein the client object capable of transmitting~~ transmits to a server object at the server system a plurality of consecutive queries, within the same session, to retrieve content from ~~said content engine the server system, wherein each of said plurality of consecutive query one of lengthens or shortens the query string by one or more characters. queries comprises a single string character and forms an increasingly focused query string for retrieving content from the server system~~, ~~and wherein each subsequent of said plurality of queries extends the query string; and~~[[,]]

a server object, in communication with ~~a server software at said the~~ server system, ~~said server object furthermore~~ and in communication with ~~said the~~ client object via ~~said the~~ communication protocol, wherein the said server object records, during the session, each of said the plurality of consecutive queries from the client system, and in response to receiving each query as it is being lengthened or shortened by one or more characters ~~single string character~~, automatically matches the extending focused query string against the content of the server system, and asynchronously returns increasingly ~~appropriate~~ relevant content information to the client object as the query string is being extended for immediate use by the client system.

2. (Currently Amended) The system of claim 1 wherein said client ~~software~~ object operates on or at a first computer and said server ~~software~~ object operates on or at a second computer, and

wherein both of said first and said second computers are connected via a communication network protocol.

3. (Currently Amended) The system of claim 1 wherein said server ~~software~~ object and said client ~~software~~ object runs on the same computer.

4. (Currently Amended) The system of claim 1 wherein said server ~~software~~ object runs on a plurality of separate computers, and wherein said client queries are distributed over said separate ~~servers~~ computers.

5. (Currently Amended) The system of claim 1 wherein said server ~~software~~ object stores previously ~~used~~ received strings and returns said stored strings to the client in response to new client queries, without accessing said content ~~engine~~.

6. (Previously Presented) The system of claim 1 wherein said client software is embedded into a software application that provides a visual interface to an operator.

7. (Previously Presented) The system of claim 1 wherein said client software is used as a content engine for another software system.

8. (Currently Amended) The system of claim 1 wherein said client software accumulates a plurality of said single character queries as they are entered into the client, before sending them together to said server ~~software~~ as a string.

9. (Currently Amended) The system of claim 1 wherein said client ~~software~~ object stores previously received responses from the server and uses these as the response to a new query by the user, without re-accessing the server.

10. (Previously Presented) The system of claim 1 wherein said client software stores a pre-defined string and automatically transmits it to the server as the client software is first accessed, and wherein additional entry of query characters is not required before server responses are sent to the client.

11. (Currently Amended) The system of claim 1 wherein said server ~~software~~ stores the state of query and response of the client software, and restores the state of the client software after any interruption in said communication protocol.

12. (Currently Amended) The system of claim 1 where said client software adds a qualifier to the query that is passed to the ~~content engine~~ by the server, whereby the ~~content engine~~ server can use said qualifier to execute the query and return appropriate results based on both the query string and its qualifier.

13. (Currently Amended) The system of claim 1 where said client software identifies a user of the system to the server ~~software~~ whereby the server can store statistics and provides a history of queries and corresponding responses appropriate to said user.

14. (Currently Amended) The system of claim 1 where said server ~~software is distributed within~~ system comprises a server tier and a syndication tier, and wherein said client software communicates to the server tier on a single computer, and wherein each query is forwarded by the server tier and the syndication tier to an appropriate syndicate of content channels connected to the server tier on a different computer.

15. (Currently Amended) The system of claim 1 where said server ~~software~~ applies a content ~~engine~~ dependent pattern and filter to characters received from the client before queries are ~~transmitted to~~ matched against the content ~~engine~~.

16. (Canceled).

17. (Previously Presented) The system of claim 1 where server responses comprise lists of strings, wherein each string is accompanied by corresponding metadata, whereby the metadata contains logical links to other data sources or Uniform Resource Identifiers.

18-19. (Canceled).

20. (Currently Amended) A system for session-based retrieval of content from a string-based content engine system, comprising:

a user interface, for inputting ~~a plurality of~~ queries to a client object, for subsequent transmission of said ~~plurality of~~ queries to a remote server object, wherein said ~~remote~~ server object is in communication with said content engine ; ~~wherein further each of said plurality of queries comprises a single string character;~~

~~a session protocol manager that maintains a session between said client object and said server object;~~

a communication protocol that enables an asynchronous session-based connection between the client object and the server object, and allows the client object to send, within a session between the client object and the server object, a plurality of consecutively input query strings, to query the content engine for content;

a client object, in communication with the user interface and with the communication protocol, wherein the client object transmits to the server object a plurality of consecutive queries, within the same session, to retrieve content from the content engine, wherein each consecutive query one of lengthens or shortens the query string by one or more characters, and forms an increasingly focused query string for retrieving content, and wherein the server object records, during the session, each of the plurality of consecutive queries from the client system, and in response to receiving each query as it is being lengthened or shortened by one or more characters, automatically matches the focused query string against the content of the content engine, and asynchronously returns increasingly relevant content information to the client object;

~~a client object, in communication with said user interface, for transmitting to said remote server object, during a session, a subset of said plurality of queries represented by a series of single string characters, and for receiving from said server object, content information appropriate to said session and to said subset of queries; and,~~

an input status ~~mechanism~~ device within the user interface for visually indicating the status of said increasingly relevant content information appropriate to said session.

21. (Currently Amended) A system for session-based delivery of content from a string-based content engine to a client, comprising:

a server, for receiving a request for content from a client object at ~~said a client, said request comprising a plurality of single string character queries;~~

~~a session protocol manager that maintains a session between said client object and said server object~~ a communication protocol that enables an asynchronous session-based connection between the client object and the server, and allows the client object to send, within a session between the client object and the server, a plurality of consecutively input query strings, to query a content engine for content; and,

~~a server object in communication with said server, for providing content information appropriate to said session, said server object records each of said plurality of single character queries, and in response to each of said single string characters, returns increasingly appropriate content information to the client as the query is being extended~~ a server object, in communication with the content engine, and in communication with the client object via the communication protocol, wherein the server object records, during the session, each of the plurality of consecutive queries from the client system, and in response to receiving each query as it is being lengthened or shortened by one or more characters, automatically matches the query string against the content of the content engine, and asynchronously returns increasingly relevant content information to the client object for immediate use by the client.

22-23. (Canceled).

24. (Currently Amended) A user interface mechanism, for use with a client application of a session-based content retrieval system, said user interface mechanism indicating both the availability of a session between said client application and a remote content server, and the status of said session, said mechanism comprising:

a user interface element, in communication with said client application, said user interface element allows a user to input data for transmission to a remote content server, wherein said input data includes a plurality of single string characters as part of a query;

a communication protocol that enables an asynchronous session-based connection between the client and the server, and allows the client to send, within a session between the client and the server, a plurality of consecutively input query strings, to query the server for content;

a server object, in communication with the server, and in communication with the client via the communication protocol, wherein the server object records, during the session, each of the plurality of consecutive queries from the client, and in response to receiving each query as it is being lengthened or shortened by one or more characters, automatically matches the query string against

the content of the server, and asynchronously returns increasingly relevant content information to the client for immediate use by the client;

a session indicator, said session indicator displayed within a first portion of said user interface element, for indicating the presence of a session between said client application and said content server; and,

a status indicator, said status indicator displayed within a second portion of said user interface element, for indicating during said session the status of increasingly available content at said content server for selection by said user at said user interface element.

25. (Previously Presented) The mechanism of claim 24, wherein said user interface element is an application input field.

26. (Previously Presented) The mechanism of claim 24, wherein said session indicator displays a triangular display element to indicate the presence of said session, and does not display said triangular display element to indicate the absence of said session.

27. (Previously Presented) The mechanism of claim 24, wherein said status indicator displays one, or a plurality of, arrow display elements to indicate the transfer of data from said client application to said server during said session, and the presence of available session-specific content at said server.

28. (Canceled).

29. (Currently Amended) A method of providing session-based communication at a client of string-based content from a server, comprising the steps of:

~~providing a communication protocol that provides a session-based connection between a client and a server, and allows said client to send a query string, as part of a session, to query said server for content~~ a communication protocol that enables an asynchronous session-based connection between a client object and a server object, and allows the client object to send, within a session between the client object and the server object, a plurality of consecutively input query strings, to query the server for content;

transmitting, via ~~a~~ the client object in communication with said client, to ~~a~~ the server object ~~a sequence of queries , within the same session, to retrieve content from said content engine, wherein each of said sequence of queries is a single string character, and wherein each subsequent character extends the query string~~ a plurality of consecutive queries, within the same session, to retrieve content from the server, wherein each consecutive query one of lengthens or shortens the query string by one or more characters, and forms an increasingly focused query string for retrieving content from the server; and[[,]]

receiving, via said communication protocol, at ~~a~~ the server object , ~~during the session, each of said plurality of queries, and in response to receiving each single string character, matching the extending query string and returning increasingly appropriate content information to the client object as the query string is being extended~~ each of the plurality of consecutive queries from the client, and in response to receiving each query as it is being lengthened or shortened by one or more characters, automatically matching the focused query string against the content of the server, and asynchronously returning increasingly relevant content information to the client object for immediate use by the client.

30. (New) The system of claim 21, wherein the server object matches each query received from the client against an in-memory cache, and returns cached content to the client without accessing said content engine, unless the cached content has expired since it was last received from said content engine.

31. (New) The system of claim 21, wherein the server analyzes the time between said consecutive queries received from each client system, and skips selected ones of said consecutive queries to reduce network communications and the load on said content engine.

32. (New) A system for session-based retrieval at a client of content from a server, comprising:
a communication protocol that enables an asynchronous session between a client and a server, and allows the client system to send, within a session between the client and the server, a plurality of consecutively input query strings, to query the server for content;
a user interface at the client that allows a user to enter a search string;
a client object, at the client, wherein the client object receives characters of the search string from the user interface as it is being entered by the user, and transmits to a server object at the

server a plurality of consecutive queries, within the same session, to retrieve content from the server system, wherein each consecutive query matches the characters of the search string as it is being entered, to form an increasingly focused search string for retrieving content from the server;

a server object, at the server, wherein the server object records, during the session, each of the plurality of consecutive queries from the client, and in response to receiving the increasingly focused search string from the client object, automatically matches the search string against the content of the server system, and asynchronously returns increasingly relevant content information to the client object for immediate use by the client; and

wherein the content information is used by the client to immediately update the user interface with options that match the content of the server system, as the user is entering the search string.

33. (New) A method of providing session-based communication at a client of string-based content from a server, comprising the steps of:

providing a communication protocol that enables an asynchronous session between a client and a server, and allows the client system to send, within a session between the client and the server, a plurality of consecutively input query strings, to query the server for content;

providing a user interface at the client that allows a user to enter a search string;

providing a client object, at the client, wherein the client object receives characters of the search string from the user interface as it is being entered by the user, and transmits to a server object at the server a plurality of consecutive queries, within the same session, to retrieve content from the server system, wherein each consecutive query matches the characters of the search string as it is being entered, to form an increasingly focused search string for retrieving content from the server;

providing a server object, at the server, wherein the server object records, during the session, each of the plurality of consecutive queries from the client, and in response to receiving the increasingly focused search string from the client object, automatically matches the search string against the content of the server system, and asynchronously returns increasingly relevant content information to the client object for immediate use by the client; and

wherein the content information is used by the client to immediately update the user interface with options that match the content of the server system, as the user is entering the search string.